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TECHNICAL SERVICES FOR WEAPONS ECM  
AND ECCM SYSTEMS

For 1 October 1987 to 30 September 1988

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Prepared for:

Naval Research Laboratory  
Code 5707  
Washington, D.C. 20375

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SRI Project 1322

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Approved by:

John P. McHenry, Director  
Systems Development Division

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## I INTRODUCTION

The Naval Research Laboratory (NRL) awarded Contract N00014-85-2627 to SRI International to provide technical support to NRL, Code 5207, in their program to provide assistance to the Naval Sea Systems Command, Code SEA-62Q. The objective of the contract is to improve the ability of the Navy surface weapons systems and their operators to function effectively when subjected to intense, complex electronic countermeasures (ECM). The contract, which began on 1 October 1985, covers one base year and two option years. This report covers work performed during the second option year--FY87.

## II TECHNICAL ACCOMPLISHMENTS

1 October through 31 December 1987

During this period, no technical effort was expended.

1 January through 31 March, 1988

During this period, no technical effort was expended.

1 April through 30 June, 1988

During this reporting period, SRI participated in the audit of the Range Electronic Warfare Simulator (REWS) Threat Radar Simulator (TRS) system at RCA, Moorestown, N.J., and initiated development of about two dozen viewgraphs giving an historical overview of the development of the REWS and its subsystems.

1 July through 30 September, 1988

During this period, SRI completed preparation of viewgraphs outlining previous research conducted for the REWS program and the current status of these efforts. REWS subsystem elements addressed in this effort included the Threat Radar Simulator, Noise Jammer Simulator (NJS), Electronic Warfare Response Monitor, Outboard Stimulator, System Integration Computer, Electronic Warfare Range Operations Center, Skin Return Simulator, Communications, Navigation and IFF Jammers/Stimulators, Infrared Simulation and Computerized Threat Simulation.

The Naval Weapons Center (NWC) at China Lake is the software support activity (SSA) for the REWS program. In support of this function, SRI was tasked to develop the requirements for the NJS emulator to be installed at NWC for stimulating the NJS software. SRI identified the required interface for each of the individual NJS subsystems as part of the emulator development. Based on the technical capabilities of these interfaces, SRI evaluated alternative methods for simulating these interfaces rather than using the actual NJS hardware. SRI presented its findings to NWC on 30 August, describing four possible hardware configurations with supporting cost data for each configuration.

During this period, SRI witnessed a jammer training exercise conducted at the San Clemente Island REWS facility. SRI reviewed the conduct of the exercise and presented findings in a report (classified CONFIDENTIAL).



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